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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/050,199	01/16/2002	Richard Thomas Gray	A01264	6295
21898	7590	12/30/2003	EXAMINER CHOI, LING SIU	
ROHM AND HAAS COMPANY PATENT DEPARTMENT 100 INDEPENDENCE MALL WEST PHILADELPHIA, PA 19106-2399			ART UNIT 1713	PAPER NUMBER

DATE MAILED: 12/30/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.  
10/050,199

Applicant(s)  
Gray et al.

Examiner  
Ling-Siu Choi

Art Unit  
1713



-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

## Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_\_.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-15 is/are pending in the application.
- 4a) Of the above, claim(s) 1-9 and 11-15 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some\* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\*See the attached detailed Office action for a list of the certified copies not received.
- 14) ☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 4 and 5 6) ☐ Other:

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**DETAILED ACTION**

1. This Office Action is in response to the Response to the Office Action dated November 5, 2003. Claim 10 of Group II was elected without prejudice.

***Claim Rejections - 35 USC § 103***

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

**(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

3. Claim 10 is rejected under 35 U.S.C. 103(b) as being unpatentable over Nienhaus et al. (US 5,670,600) in view of Nothnagel (EP 0 523 993 A1).

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The present invention relates to an aqueous coating composition comprising

(1) a first polymer	(a) 5-50 wt% of a monoethylenically unsaturated monomer containing one or more acidic functional groups [carboxylic, sulfonic, or phosphoric groups]
	(b) 0-60 wt% of a (meth)acrylic monomer containing one or more pendant reactive functional groups [hydroxy, thiol, or amino groups]
	(c) 0-70 wt% of one or more vinylaromatic monomers
	(d) 15-90 wt% of one or more C <sub>1-20</sub> alkyl (meth)acrylate ester monomers
	(e) 0-10 wt% of one or more other copolymerizable monomers
(2) a polyfunctional crosslinker agent comprising pendant functional groups [isocyanate, carbodiimide, aziridinyl, or epoxy groups]	
(3) 0.1-15 wt% of coalescing agent	
(4) 0-10 wt% of one or more additives [waxes, surfactants, defoamers, leveling agents, alkali-soluble resins, or plasticizers]	
(5) 50-99 wt% of water	
wherein the first polymer has M <sub>n</sub> from greater than 50,000 up to 2,000,000	
the polyfunctional crosslinker agent has from 0.2 to 5 equivalents of pendant functional group per equivalent of corresponding pendant reactive functional group in the first polymer	
the combined amount of (1) and (2) is from 10-90 % and the sum of (1), (2), (3), (4), and (5) add up to 100%	

(summary of claim 10)

Nienhaus et al. disclose a aqueous two component polyurethane coating comprising (A) a water-dilutable polyacrylate resin containing (a1) **20-60 wt%** of one or more esters selected from the group consisting of **esters of acrylic acid, esters of methacrylic acid, and mixtures thereof**, (a2) 10-40 wt% of one or more ethylenically unsaturated monomer, (a3) 1-25 wt% one or more

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vinyl esters of  $\alpha$ -branched monocarboxylic acid, (a4) 1-25 wt% at least one reaction product of acrylic acid and/or methacrylic acid with the glycidyl ester of an  $\alpha$ -branched monocarboxylic acid, (a5) **1-15 wt% of one or more ethylenically unsaturated monomer having at least one carboxylic group per molecule**, and (a6) 5-30 wt% an ethylenically unsaturated monomer and (B) a polyisocyanate component as a crosslinking agent, wherein the acrylic, wherein the polyacrylate resin has a number average molecular weight of from 2,500 to 20,000 (col. 8, lines 45-47; claims 1 and 5). Nienhaus et al. further disclose that the coating composition further comprises a thickening agent, a wetting agent, an antifoam (col. 11, lines 15-32).

The difference between the present claims and the disclosure of Nienhaus et al. is the requirement of the polyacrylate resin having a number average molecular weight ranging from greater than 50,000 up to 2,000,000.

Nothnagel discloses a polymeric vehicle comprising (A) a water dispersion of a water dispersible ammonia salt of an acrylic polymer having carboxylic groups, the acrylic polymer has a molecular weight in the range of from about 30,000 to about 3,000,000 and (B) diisocyanate (claims 1 and 15). Nothnagel further discloses "...to provide a low VOC cross-linkable polymeric vehicle which includes a high molecular weight acrylic polymer....." (page 3, lines 3-5). In light of such benefit to use the high molecule polyacrylate resin, it would have been obvious to one of ordinary skill in the art at the time the invention was made to use high molecular weight polyacrylic resin in the disclosures of Nienhaus et al. and thereby obtain the present invention.

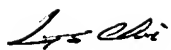
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*Conclusion*

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ling-Siu Choi whose telephone number is (703)305-0887.

If attempt to reach the examiner by telephone are unsuccessful, the examiner's supervisor, David Wu, can be reached on (703)308-2450.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the group receptionist whose telephone number is (703)308-2351.



Ling-Siu Choi

December 27, 2003